App F IX 1

Previous References (1941 - ML) ML File No 90 — 4
Serial Nos 1, 2 —

Later References

GENERAL AND REVENUE SECRETARIAT.

Serial Nos : one

Part B for November, 1941

SUBJECT

Use of un-reinforced cement Concrete in the Construction of the main sewer sewer from the Sunkal Farm, Bangalore City, in view of the rise in the price of iron & steel

To The D P H
" Chief Engineer
" Comptroller
" Municipal Commissioner,
Bangalore City, through
the Resident

Sl 2) L 3524 - 7 Dy 6 - 11 - 41

Sanctions the ——

Rpt 10/12/41

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General and Revenue Secretariat | File No | of 194 | [App F III—2

Serial No

From the Dr of P Health
No C81-75 Dt 1-10-41.
Requests sanction, for the reasons explained to the use of cement Concrete without reinforcement in the Construction of the main Cvord Sewer in View of the cost of steel bars having risen four times due to war conditions etc

From the Dr of P. Health
No C-81-67 Dt 12 10 1941
Forwards the boat calculation sheet, Sketch and copies of letters forming enclosure to his letter Dt 1-10-41

It is stated that the chief Engineer who was consulted in the matter is also agreeable to the Proposal.
Submitted with a draft GO for appl.
HKR 27/10

may be approved
Lawsey for
29 X 4

Minister L S G

Hm 2 31/10/41
for 31 10

HTG 31 10 41

Hm 2 11/11/41
Approved
for
1/11/41

SECY LAL DEPT 30 OCT 1941 GOVT OF MYSORE

OFFICE OF THE MINISTER FOR L S G & P H
Date 31-10-41
No 2547

TYPING SECTION 31 OCT 1941 SECY REV SECTT

NOTE—Contd. sheet

WD 04155—GPB—55 000—93 10 41

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ml File No 90 of 1942 — General and Revenue Secretariat

No 352)-776 x1 41

Serial No 2

To the Dr of P. Health
the Chief Engineer
the Comptroller
the Mnl Commr Bcis, thro Pol
Sanctions the proposal

13/11

1938/L

No C 84-75 Civil Misc

P PARTHASARATHY Esq L M S B Sc
LRCP LRC DTM DPH
Director of Public Health

SECY LAW DEPT * 2 OCT 1941 * GOVT OF MYSORE

Office of the Director of Public Health
in Mysore,
~~BANGALORE~~
Camp Mysore

Dated October 1, *1941*

From
The Director of Public Health
in Mysore, Bangalore

To
The Secretary to Government,
Law Department, Bangalore

Sir,

Bangalore City Drainage

Adverting to Government Order No L 362-64/Ml 32-40-169 dated 18th July 1941 sanctioning among others, an estimate for Rs 3,60,000 for extending the main sewer from Sunkal Farm, I have the honour to state that the Special Officer, Bangalore City Drainage Division in his letter No 49 dated 9th September 1941 (Vide copy with enclosures in original enclosed) suggested the use of cement concrete without reinforcement in the construction of the main Ovoid sewer in view of the cost of steel bars having risen 4 times due to war conditions, opining that it does not appear necessary to reinforce the cement concrete bed with steel bars The net savings by omitting reinforcement owing to increased cost will be about Rs 43,000/-

The matter was referred to the Chief Engineer for opinion and he states in his letter No 4881 dated 19th September 1941 (copy enclosed) that the recommendations of the Special Officer may be accepted

I therefore request you to be so good as to obtain and convey approval of Government to the deviation from the sanctioned design as the sanctioned estimate provides for the sewer to be constructed on a reinforced cement concrete bed

~~Sorted with a draft Go prepared~~ I have the honour to be,

Sir,

Your most obedient servant,

P Parthasarathy

Director of P ublic Health

135 1/2

Public Health

r No.4881 dated 19th September 1941 from the
ineer of Mysore, Bangalore, to the Directo of
ealth in Mysore.

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ore

Subject:- Bangalore Drainage - Construction of the main Ovoid sewer without reinforcement

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With reference to your letter No C 81-70 dated 12th September 1941 on the above subject, I have the honour to inform you that the recommendation of the Special Drainage Officer to use cement concrete bas of 9" thickness, without reinforcement, as the intensity of lead or the sheer stone in concrete are very much less than permissible limits, may be accepted, in the circumstances reported by him.

2 The lead calculation, sketch and 3 original copies of letters are herewith returned

---

"Copy"

for Director of Public Health

Director of Public Health

2135/a

No C 81-67
Encl one. Load calculation Sheet & Sketch

P PARTHASARATHY ESQ LMS BSSc
LRCP LRCS DTM DPH
Director of Public Health

Office of the Director of Public Health
in Mysore,
~~BANGALORE~~
Camp Mysore
Dated October 11, 1941

12

From
The Director of Public Health
in Mysore, Bangalore

SECY LAW DEPT
13 OCT 1941
GOVT OF MYSORE

To
The Secretary to Government,
Law Department, Bangalore

Bangalore City Drainage- Construction of main ovoid sewer without reinforcement

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Sir,

I have the honour toenclose herewith the load calculation sheet and sketch in original and copies of the marginally noted letters which were omitted to be sent with this office letter No C 81-25 dated Camp Mysore 1st October 1941 on the above subject

1 Letter No 55 dated 31st July 1941 frm the Special Officer City Drainage Division, Bangalore, to the General Manager Iron and Steel Works, Bhadravati

2 Letter No 2303 dated 2nd August 1941 from the Sales Manager, Mysore Iron and Steel Works, Bhadravati to the Special Officer, Bangalore City Drainage Division

3 Letter No 64 dated 9th August 1941 from the Special Officer City Drainage Division Bangalore tothe Iron and Steel Controller, Calcutta

4 Letter No ISC 6/138/10 dated 15th August 1941 from the Iron and Steel Controller, Calcutta, to the Special Officer, Bangalore City Drainage Division, Bangalore

I have the honour to be,

Sir,

Your most obedient servant,

P Parthasarathy

Director of Public Health

Letter No 55 dated 31st July 1941 from the Special Officer, City Drainage Division, Bangalore, to the General Manager, Iron and Steel Works, Bhadravati

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I write to inform you that about 2,20,000 r ft of ½" mild steel rods will be required by this Division for use in the construction of the main ovoid sewer in Bangalore City in 1941-42 and 1942-43 I therefore request you to kindly let me know if the required quantity could be supplied by you in the next two years The rate at which the rods can be supplied in Bangalore may kindly be intimated The matter may kindly be treated as urgent

---

Letter No 2303 dated 2nd August 1941 from the Sales Manager, the Mysore Iron and Steel Works, Bhadravati to the Special Officer, City Drainage Division, Bangalore

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With reference to your enquiry for the supply of 2,20,000rft (about 65 tons) of ½" M S Rounds during the next two years, we have to draw your kind reference to the Government of India Iron and Steel Control Order which has come into force from the 1st instant We would suggest your writing to the Iron and Steel Controller, 102-A, Clive Street, Calcutta, for a priority certificate, furnishing him details of purpose for which the materials required and the urgency if any

---

Letter No 64 dated 9th August 1941 from the Special Officer, City Drainage Division, Bangalore, to the Iron and Steel Controller 102-A Clive Street, Calcutta

---

I write to state that about 2,20,000 r ft (about 65 tons) of ½" mild steel rods will be required by this Division during the next two years viz , 1941-42 and 1942-43, in connection with the extension of main ovoid sewer in Bangalore City

When a reference was made to the Mysore Iron and Steel

Steel Works, Bhadrayati, in this connection, they suggested our writing to you and obtaining a priority certificate from you, before placing order with the firm, as per the Government of India, Iron and Steel Control Order, which is said to have come into force from 1st of this month

I wish to point out in this connection, that this work has to be taken up immediately as the sewage from a large portion of the City is at present discharging into the open flood water main drain and a large number of houses have sprung up in the vicinity It is therefore imperative that the work should be taken up immediately and completed as soon as possible, with a view to improve the public health in the area The Government have sanctioned the estimate for the work and the Municipal authorities are urging for the early commencement of the work

In view of the facts stated above, I request you to be so good as to issue a priority certificate for the purchase of the required quantity of steel in the next two years An early reply in the matter is requested

---

Letter No ISC 6/138/10 dated 15th August 1941 from the Iron and Steel Controller, 102-A Clive Street, Calcutta to the Special Officer, City Drainage Division, Banglore

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Re your application No 64 dated 9th August 1941 for M S Rods

The Government of India issued the Iron and Steel (control of distribution) Order 1941 which came into effect on the 1st August 1941 From that date no person can agree to dispose of any Iron and /or steel unless authorised by a license or sub-license In the circumstances, I am unable to take any action on your above-mentioned application until such license or sub license is received Please therefore approach the appropriate Scheduled Department for the necessary license and on receipt, forward it, together

together with your order in quintuplicate, to the Iron and Steel Controller, 102-4 Clive Street, Calcutta, as early as possible

---

"Copy"

Director of Public Health

Load on foundation of oval
Sewer of 2'-8" × 4'-0" section at a depth
of 12 ft

Contents of base slab = $1 \times 5 \times \frac{3}{4} = 3\frac{3}{4}$ c/ft
(per ft run)

Contents of bottom portion of sewer $= 1 \times 3\frac{2}{3} \times 2\frac{11}{12}$

$= 10\frac{2}{3}$ - hollow portion

$= 10\frac{2}{3} - \left(\frac{8}{3} \times \frac{8}{3} \times \frac{1}{2}\right) = 10\frac{2}{3} - 3\frac{5}{9} = 7\frac{1}{9}$ c/ft

Contents of arc ring $= \frac{\pi d}{2} = \frac{1}{2}\left(\frac{22}{7} \times \frac{19}{6}\right)$ c/ft

$= 5$ c/ft

Total of Cement Concrete
$3\frac{3}{4} + 7\frac{1}{9} + 5 = 16$ c/ft
wt of Concrete $= 16 \times 150 = 2400$ lbs

Sewage —
In lower half portion $= 3\frac{5}{9}$ c/ft per ft
Top portion $= \frac{1}{2}\frac{\pi d^2}{4} = \frac{1}{2} \times \frac{22}{7} \times \frac{64}{9} \times \frac{1}{4} = 2\frac{4}{5}$ c/ft
Vol $= 3\frac{5}{9} + 2\frac{4}{5} = 6\frac{1}{3}$ c/ft
Wt of sewage, when the sewer is flowing full
Wt $= 6\frac{1}{3} \times 80 = 507$ [assuming 1 c/ft of sewage = 80 lb

Wt of earth on refilling of —
a depth of 12 ft and on bed of 5 ft —
60 s/ft

reducing the area taken up by Levers -

$= 16 + 6\frac{1}{3} = 22$ sft

To Taking Cubical Contents for 1 ft length -

Vol of earth $= 60 - 22 = 38$ cft or say 40 cft

load due to Earth filling $= 40 \times 125 = 5000$ lb.

Total load on bed $= 2400 + 507 + 5000 = 7907$ lb

$= 3\frac{1}{2}$ tons

Intensity of Stress

$\frac{7}{2} \times \frac{1}{5} = \frac{7}{10} =$ 7 tons per sq ft

Intensity of Shear on bed Slab -

$\frac{7}{10} \times \frac{2}{3} = \frac{7}{15} = \frac{7}{15}$ tons total shear

$= \frac{7}{15} \times 2240 = 1043$ lbs "

Intensity of Shear on an area of 108 sq"

$= \frac{1043}{108} = 10$ lbs nearly □"

[Shear Stress allowed for 1:2:4 Plain Concrete is 60 lbs/□"]

Examined

9 5 41

Special Officer
Bangalore City Drainage Division
BANGALORE

DIV.

ry No of letter replied to

General and Revenue Secretariat

( )

the *194*

Date of issue 6th Nov. 1941

Signed by Hr G. Ramachandra Rao

May this be—

(i) printed ?

(ii) treated as a standing order ?

(iii) published in the Gazette English Part ?

(iv) translated ?

(v) placed at the disposal of the press ?

(vi) published in the Gazette Kannada Part ? C ✓ 67

Section Mel

File No 90-41

Serial No 2

Proceedings of the Government of His Highness the Maharaja of Mysore

Read—GO No R 362-64/Mel 32-40-169 Dy 18-7-41 sanctioning among others, an estimate for Rs 3,60,000/- for extending the main Sewer from the Sunkal Farm, B'lore in Connection with the B'lore City Drainage scheme

~~Order thereon No~~ 2) Letters No C81-75 2/2 x 4 Library Dy 1-10-1941 from the Dy of P Health stating that the Special officer, Bangalore City Drainage Division, has suggested the use of cement concrete without reinforcement in the

Construction of the main Board
Avoid sewer in View of the
Cost of steel bars having
risen four times due to
war Conditions and that the
Chief Engineer who was
Consulted in the matter
as has stated that the suggestion
of the Special Officer may be
accepted as it would result
in a net savings of Rs 43,000/-
and requesting sanction to
to the deviation made from the sanctioned design
Order No 3524 dtd the sanctioned estimate
Provides for the sewer being
constructed in cement concrete
Cement lined
List of Enclosures

Sanctioned

Hm 31/10/41

for Secy to Govt
WR Law Deptt
27/10

To The Dr of P Health ✓
The Chief Engineer ✓
The Comptroller ✓
The Md Commr, Bombay ✓

Copied by
Examined by

PROCEEDINGS OF THE GOVERNMENT OF HIS HIGHNESS
THE MAHARAJA OF MYSORE

Read —

Government Order No.L 362-64/ml.32-40-169 dated 18th July 1941 sanctioning among others, an estimate for Rs.3,60,000/- for extending the main sewer from the Sunkal Farm, Bangalore City, in connection with the Bangalore City Drainage Scheme.

2. Letters No.C.81-75 and C.81-67 dated 1st October 1941 and 12th October 1941 respectively from the Director of Public Health stating that the Special Officer, Bangalore City Drainage Division, has suggested the use of cement concrete without reinforcement in the construction of the main Ovoid sewer in view of the cost of steel bars having risen four times due to war conditions and that the Chief Engineer who was consulted in the matter has stated that the suggestion of the Special Officer may be accepted as it would result in a net savings of Rs.43,000/- and requesting sanction to the deviation made from the sanctioned design as the sanctioned — estimate provides for the sewer being constructed on a reinforced cement concrete bed.

Order No. L 3524-27/HC 90-41-2 Dated, Bangalore the 6th November 1941

S a n c t i o n e d.

(Draft) for Secretary to Government,
Law Department

To—The Director of Public Health in Mysore,
" Chief Engineer of Mysore,
" Comptroller to Government,
" Municipal Commissioner, Bangalore City, through the President

SJ/6